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SIR:—If a portion of the sum now paid to medical men for attendance on railroad casualties, or expended in litigation arising out of the same and terminating in excessive verdicts often for slight or even imaginary injuries, could be expended in placing the medical arrangements on the same footing of system and order prevailing in other departments, much suffering and many lives would be saved. The object of the accompanying pamphlet is to show the necessity in this day of railroad traveling, of making some provision beforehand for the want of which the management of the injured is often a disgrace to the civilization of the age in which we live. A system is here proposed by which the objects in view might be accomplished by inexpensive means and the axe at the same time laid at the root of frauds. It would be useless, however, to attempt such arrangements while juries are enabled to give greater damages for lives saved than for lives lost. I would therefore respectfully suggest—while premising that although the plans I have submitted may not be suited to all railroads, they may be easily modified to suit the peculiar necessities of each—that the directors of railroads should take into consideration the following propositions as a basis for future legislative action:

1st. That whereas neither care, prudence nor foresight can prevent serious accidents occurring, they should be provided for beforehand, so that persons injured may be treated in the most prompt and efficient manner.

2d. That medical men employed should be paid in all cases upon a fixed basis, such payment not to extend beyond the immediate necessities of the case where there is no liability on the part of the railroad and in such cases to extend only to the first dressing.

3d. That in return for such a boon to the public, while not exempted from just responsibility, the liabilities of companies (of the public in fact as stockholders,) should be limited to such an extent as would conform to the dictates of reason and justice.

Should these principles gain the ascendancy much life and suffering would be saved in the future, while much annoyance and expense would be saved to the companies.

Respectfully, &c.,

EDMUND ARNOLD, M. D.

Yonkers, Jan. 1st, 1862.



Arnold (E) Box

ON

## MEDICAL PROVISION

FOR

# RAILROAD ACCIDENTS

IN A LETTER TO THE

AMERICAN MEDICAL TIMES,

WITH A

POSTSCRIPT,

BY A

COUNTRY SURGEON.

*Edmund Arnold*

DECEMBER, 1861.

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## Medical Provision for Railroad Accidents.

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In inserting the following letter in the American Medical Times, of December 7, 1861, the editor calls special attention to the subject, as "one of great importance to the welfare of the traveling public," adding further, that "the plan proposed must commend itself to every practical and humane mind."

It is, as far as the writer is aware, the first attempt to suggest some means, whereby more prompt and efficient assistance may be rendered to the injured, their sufferings thereby abated, and the average fatality attending casualties greatly diminished. The more we examine the matter on every side, the more apparent will be the necessity of doing something, at least. As, in laying it before the public, it is desirable to present a complete working plan, if only as a basis of discussion, some further remarks have been appended, by way of postscript to the letter. Should this little brochure succeed in arresting the attention of the public and railroad managers, so as to lead to some practical effort to remedy a great existing, though hitherto unacknowledged, evil, the end of the writer will be fully gained.

### EMPLOYMENT OF SURGEONS TO RAILROADS.

*To the Editor of the American Medical Times:*

SIR—Living in the vicinity of a great railroad, and having on several occasions been called to attend severe injuries occurring thereon, it has been a matter

of wonder to me, that companies have never adopted, nor the public called for, more efficient arrangements for the saving of life in the casualties that every now and then happen. These are frequently of the most appalling character, and occur often in the most out-of-the-way places, so that, before medical assistance can be obtained, much time is necessarily lost. But ought we not to reduce it to a minimum ? We know there is not a day that some terrible accident may not happen, that many die from shock and long exposure, and that the management of the injured during the first few hours often determines the question of life and death ; yet that no local arrangements are made to meet such emergencies. A man is hurt on the line, people run for the nearest doctor, who, when he arrives, is, perhaps, no surgeon, is scared at the aspect of the bleeding, mutilated object before him, or has no appliances suitable to the case, and the sufferer is bundled up in the best manner possible, put into a freight car, and sent to a hospital many miles away, there to die from the exhaustion of the journey, superadded to the original shock ; a valuable life, if only to his family, being thus, perhaps, unnecessarily lost.

I proceed to illustrate my subject by one or two actual cases. In October, 1857, a boy jumped out of the baggage car of an express train, at full speed, against the rocks, and, rebounding on the track, was picked up horribly mangled. His injuries were as follows : the left leg, from midway below knee and foot, completely smashed and in part torn away, fracture of the left thigh, compound fracture of right

leg midway below knee, both bones protruding, compound fracture of right great toe, and a severe scalp wound about three inches in length. He was quickly removed to his parents' residence, and medical assistance was promptly at hand. I had the satisfaction of discharging him sound, of course with loss of one leg below the knee, after four months' attendance, for which I may observe, *en passant*, that, as in other minor cases, I received no compensation whatever. I do not think there can be a doubt that, had this boy been far from home, and been jolted along for many miles, however carefully, to a distant hospital, he would have been added to the list of railway victims, and his death regarded as a matter of course.

Some two years since, a train ran into another, stationary on the line, injuring several persons, among them a lady, who was jammed in such a manner as to tear the abdomen. The shock to the system was very severe. After some delay, she was put into a car, although the accident happened near an important town, carried eight or nine miles, then from the station to a hotel, where within an hour or two she died. On the inquest, the medical attendant testified that she had not sustained any serious internal injury, and attributed her death mainly to the shock of the accident. In this case, the shock to the system could hardly have been greater than in the preceding case, and the actual injuries were certainly far less severe. Now, had the sufferer been removed gently to the nearest town or flag station, her wound dressed, and means promptly taken to rally her system, instead of

time being lost, and carrying her about from place to place in her agony, a downward impetus being thereby given to already depressed and rapidly failing vital powers, might not the result have been different, and not only a valued life saved, but liability, on the part of the company, to the highest amount of individual damages, avoided ?

This is a matter in which not only the public and life insurance companies, but also the railroad companies themselves, apart from higher considerations, are interested, even as a matter of economy. As regards the latter, are they not besides often mulcted in heavy damages for almost imaginary, or, at least, greatly overstated, injuries, for want of competent medical testimony on their side, based on actual examination at the time of the accident ? So much for the evil to be remedied ; now for the remedy itself.

Let the companies, where practicable, appoint district surgeons, unsalaried, but payable for actual services, at the principal towns along the line, and not exceeding from ten to fifteen miles apart, the district of each to extend to the flag station nearest to midway between any two. The advantage attending such regular appointments would be, that where medical assistance was not immediately at hand, the employés would know exactly where to send. At each such surgical station a small room should be set apart on the ground floor, furnished with an iron cot bedstead and bedding, a stretcher, a small table, one or two common chairs, and a small wood-stove, by which the room could be heated in a few minutes, if required, in winter, or hot water, or a brick for application to

the feet at any time. I may here observe, that if the companies did their part, I have no doubt each surgeon could raise among his own friends and patients enough, not only to furnish the main station, but also to provide every flag station with a stretcher and mattress, to be kept always ready, and of which the whole first cost would probably not exceed fifty dollars for each district. The surgeon might also keep at the station a little linen, lint, bandages, sponges, a few splints, and such minor articles for immediate use. In case of an accident, a stretcher could be obtained from the nearest flag-station, or those from the adjoining ones, if several were seriously hurt, and the medical officer summoned, also those of adjoining stations, if necessary. This would not preclude, however, the employment of any medical assistance immediately available. If the injury were too severe to risk removal, the patient could be carried to the nearest flag station until the immediate danger had subsided ; when practicable, however, he should be carried to the nearest district station, his immediate wants there attended to, and provision made for safe removal. Where a surgeon is summoned to the scene of an accident, he should have the right of availing himself of any passing train, that as little time as possible might be lost, and it should be his duty to examine carefully into the amount of injuries sustained, and to keep notes of the same for the future refreshment of his memory; also to furnish a copy to the superintendent, to be kept on file at the chief office. In cases of fraudulent or exaggerated claims upon companies, the medical officers would become their most import-

ant witnesses, and I believe the amount thus saved would far exceed all costs and tend greatly to diminish litigation.

Among the advantages arising from the appointment of regular medical officers, not the least would be, that many practical and intelligent minds would be devoted especially to the subject under consideration, and suggestions at once simple and valuable would gradually become embodied into rules and regulations for the guidance of employés in emergencies, tending materially to alleviate human suffering and save lives, which would no longer be allowed to ebb away on the hard floor of a baggage room, amid a crowd of curious bystanders, nor would the usefulness of a medical man be crippled for want of the most necessary conveniences. In a word, system would take the place of chance arrangements, with all their attendant confusion and increased risk.

With some such plan as that here crudely and briefly sketched out, how many lives, now annually sacrificed on the thousands of miles of railway, might be saved ! A system would be by degrees introduced, simple in detail, inexpensive in its working, efficient in its results. The traveling public would find in it an additional guarantee for their safety; the tax now often devolving upon medical practitioners would fall upon the shoulders of the companies, which, however, would gain far more than they would lose by the change, and the general interests of humanity would be served.

In conclusion, I believe, that the man of means and influence, who would grapple with this subject, and

devote his energies to arousing the public and life insurance companies, railroad directors and legislatures to the matter, would as much entitle himself to be regarded as a public benefactor as the founder of the Royal Humane Society.

Yours, &c.,

A COUNTRY SURGEON.

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## POSTSCRIPT.

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In former days, when a fire occurred, the neighbors assembled with buckets and water pails, each working on his own account, and the devouring element, often out of reach, would seem to laugh at their feeble efforts, only succumbing when nothing more was left to destroy. Now, we provide beforehand. We have well-organized fire companies with engines and hose, which often at once arrest the progress of the flames. The same principles here brought into play, for the saving of property, I would see brought into action for the saving of life by railway accidents. In both, much may be accomplished, in the one case has already been, as also in cases of drowning, by system and proper organization. No one supposes that, however efficient may be our fire departments, no losses will occur by fire, but no one doubts that an immense amount of property is saved that would otherwise be destroyed. So it is with railway disasters. We cannot prevent loss of life; we can do much more than has hitherto been done towards saving it. In the former case considerable expense is necessary for engines and apparatus, in the latter scarcely any. The materials are all ready to hand, if we will only avail ourselves of them.

In the system I propose, the benefits will be felt less in proportion as large towns possessing hospital ac-

commodations are approached, but they will be nevertheless felt more or less everywhere.

I will now suppose the necessity of doing something admitted, and the general plan proposed adopted, and proceed, if only as a basis for discussion, to complete a working system.

Let each railroad company appoint, at its main terminus, a medical superintendent. The duties of this officer would be, to organize the districts, to issue medical regulations, with sanction of the general superintendent, to whom he would be subordinate, to receive and collate reports, and to act as medical adviser of the board in all pecuniary or other transactions, with their district surgeons. His duties would be of a confidential character, and he should be entirely in the interests of the company. His functions being multifarious, he should be a salaried officer; but, as his duties would not interfere materially with the requirements of private practice, his salary need not be a large one. Of the district surgeons I have already spoken; though unsalaried, they would receive pay for all actual services; not at random, but upon a fixed basis.

It remains only to say a few words on the practical operation of such a system. When an accident occurs, every railway servant is willing to assist, and does the best he can—often, however, acting very injudiciously, for want of knowing better. One of the first duties, therefore, of the medical department should be, to issue a simple code of directions to station masters and flag men what to do previous to the arrival of a medical man, in cases of accidents. For instance, if a person is bleeding from a wound, the employé should be directed and shown how to apply a pad and bandage; and so a man might be saved from bleeding to death. If the sufferer is pale and chilly, with cold extremities, the railway official should be instructed to make a warm bed on his stretcher, to heat a brick and put it to the feet, and to administer warm tea at intervals, and so a man might be saved from sinking to

death; and, when the doctor arrives, instead of being abandoned as a hopeless case, reaction may be commencing, so as to induce a surgeon to bestow his most strenuous efforts; or, reaction may be fully established, so that he may act at once. For efficient service of this kind, the doctor, whether attached to the line or not, should, upon proper representation of the case, receive payment for the first dressing. It often costs him a vast deal of time and labor. It might be said, that this entails an expense on the railroad to which it is not liable, and which it ought not to be made to pay. Practically, this would be very trifling. If a person is struck by a train on the line, the chances are that he is instantly killed; or he may belong in the neighborhood, so that he can be removed to his own home, and there attended by his own medical man. If an injury happen in the cars, through a passenger's own carelessness, he can mostly pay himself, and, if it occur from carelessness of railway servants, the company is liable any way.

Let us now suppose that a serious break-up occurs in a part of the country where there is no house in the immediate vicinity. I need not describe the scene of bustle, disorder and confusion, amid which the agony of the wounded is in no way diminished by the absence of all conveniences, added to the feeling that, when medical assistance does arrive, it may be totally inefficient. Under this system, whoever might arrive, the district medical officer would at once be sent for, and he, on his arrival, would take authoritative charge, availing himself, if necessary, of whatever professional or other assistance was at hand, and proceeding promptly and efficiently to do what was needful in the premises, as, in such a case, only a medical man of skill and judgment could do. Meanwhile, the engine and tender could be dispatched along the line for stretchers and beds, or the telegraph might be put in requisition, directing any train coming behind to collect them, and so, in a short time, one of the first needs would be supplied. If the surgeon needed assistance

he would know where to send for it, or his brethren of neighboring districts might be summoned. Under his eye, there would be no fussing round of incompetent men, and services paid for, as useless as the charges were exorbitant. All would be carried on with as much order and regularity as the clearing of the wreck itself; and, for every life saved by such improved arrangements, several thousand dollars would be saved to the company.

These instances give but a small idea of the many advantages ultimately derivable, by the railroad companies and public, from adopting some plan embodying the general principles here advocated. Instead of entailing expense, considerable saving would be effected pecuniarily, and, what is of still more importance, the percentage of fatality by railroad casualties would be greatly diminished.

This is no professional movement ; all that a company would pay to any individual medical officer would scarcely form an item in his general receipts. It is the great public and railroad managers that are mainly interested in this question. Let not this or that railway company point to statistics to show the special safety of their line ; the breaking of a rail, the springing of a wheel, the falling of a piece of rock on the track, an apparently trifling act of carelessness on the part of a railway servant, and the best regulations are rendered of no avail. In an instant, and ere the passengers can realize that there is anything wrong, a mass of human beings, variously mutilated, are precipitated in a heap among the fragments of a wrecked train. Neither can any member of the traveling community, by care, prudence, or precaution of his own, insure himself against being numbered amongst the victims of the next great catastrophe by which the public mind shall be startled.